AXSTEC

SIMPLICITY IN ACCESSIBILITY

AXS - Step

Manual

ACDEOS BV
Touwbaan 1A
2352 CZ Leiderdorp
Netherlands
WWW.ACDEOS.COM

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1 Technical specifications

Product description	Electric operated step for mounting outside under the floor of a vehicle.
Installation	Under the vehicle Floor at the front- middle or rear door
Dimensions	Step depth 300 mm - width depending on model 600, or 900 mm
For detailed dimensions please refer to the installation drawings	
Weight	total 24-28 Kg depending at model.
Load	Maximum load 150 Kg (1500 N) this is always labeled on the Step.
Materials	Frame; steel plate work, EP corrosion protected.
Step: Aluminum profile with soft rubber front edge and Plastic corner pieces.	
Life cycle	Tested life cycle of the step is 100.000 cycles with a load of 100 KG.
Electrical connection	Waterproof 4 pin connector (IP65) on the step.
Drive	Electric motor 12V 20W (or optional 24V)
Electric signals	following electric signals are available: Step closed / stowed.
Safety functions	Motor switched off by current control.
Cycle time	Time required for opening or closing the step is approx 2,5 Sec
Legislation	The product fulfils 2001/85 EC Bus directive and 98/37 EC Machine directive.

2 Safety instructions

These Safety instructions should always be with the step. The operator must be made aware of these instructions before operating the Step. Read these safety instructions carefully and follow them.

The step is constructed to be an extra step to enter a vehicle. It should be used appropriately by passengers as long as they are not heavier as the maximum load, to enter or exit a minibus, taxi camper or other vehicle.

1. Before you can operate the step you have to stop the Vehicle and make sure that the hand or park brake is on.

2. Before you operate the step, make sure that there is no person or obstacle at or close to the step. Look out that there is no person or obstacle outside the vehicle in the motion direction of the step.

3. It is recommended that the step is only operated by the driver or other qualified operators.

4. The driver or operator must have a clear view at the step when he is operating the step.

5. It is recommended to step on the middle of the step platform.

6. NEVER drive away when the RED dashboard LED light is still on. The step is not properly stowed.

7. The step platform must be kept clean and free of oil and other slippery materials.

8. When you have any doubt about the safety of passenger when using the step make sure he is assisted.

9. For any questions about the safe operation of the step, directly contact the responsible persons.

10. Never use the step for any other use than here described.

11. Never overload the step.

12. The step should always be operated until it is fully in or out.

13. Repair and maintenance must be done by qualified and trained staff only.

14. Only use original parts if you have to exchange parts from the step.

15. If the anti slip profile at the step becomes slippery because of wear, the step platform must be replaced.

16. Always use the recommended cleaning materials.

17. Report any unsafe condition of the step, or during it's operation, to the step supplier.

3 Constraints

The Step On has been designed to be functional and reliable. The product is made as simple and reliable as possible. It has been taken in consideration that the step will be mounted under a vehicle in severe environmental conditions

4 Controls

4.1 Step Control

The step control is made as easy as possible. The controls comply with European 98/37 EC machine directives. Functions and measurements are compliant with the EU Bus directive 2001/85 EC.

The electric step is an automatic system controlled by opening and closing of the vehicle door or optionally by a driver operated switch.

4.2 Signals

The following output signals are available from the step electronics:

- Step out.

This is a red LED to make clear to the driver that the step is not in the stowed position and that he cannot drive away safely. This signal will blink when the step is moving in or out

- Step in operation, moving in or out.

There is an audible signal when the step is moving in or out.

4.3 Legal requirement according 2001-85 EC:

- Driver must have an indication that the step is fully stowed. It should be impossible to deploy the step when a safety device fails. Manual operation is allowed.
- The horizontal movement of a step shall be interrupted when it is loaded with a mass of 15 kg.
- Extension of the step in the horizontal direction shall be protected by a safety device. In the event of a safety devices coming into operation, the movement of the step shall immediately be stopped.

The Step On fulfils all these requirements.

4.4 Electrical Components

All electrical components directly outside the step cassette are water resistant to IP 65.

4.5 Power

12-volt commercial vehicle electrical system. Such a system consists of a 12-volt battery and an alternator/generator system. The step performs all necessary functions when subjected to the normal fluctuations encountered in a normally functioning 12V DC, commercial vehicle electrical system. (optional 24 V system)

Note: The ECU is not protected against changing the polarity at the power lead. This will damage the ECU.

IMPORTANT

The power line needs to be protected by a 20 Amp fuse. This fuse is not included in the cable loom.

4.6 Current control

The Step has a current control function. The step will stop with a load of max 150 N in front of the step. It will retract for a few centimeters and than try again to continue its movement out. It will try three times to move out, then it will stay in the position where it was obstructed and fully returns when the door is closed or the driver closes the step by a driver operated switch.

4.7 Motor

The motor specifications:

Voltage	12V DC (or 24V optional)
Unloaded rotation speed	70 rpm
Unloaded current	2 A
Rated load	350 Ncm
Rated current	5-6 A
Locked torque	850 Ncm
Start / lock current	18 A
Current cut of by ECU	6,5 – 7.5 Amp

5 Operation

5.1 Deploy Operation procedure

The step must have clearance from the vehicle. The vehicle must have the parking brake on, and then the step can be safely operated.

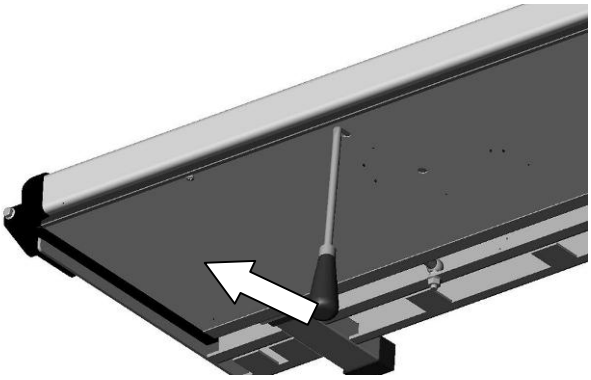
The electronics receive a signal from the door switch or driver switch. If a door switch is installed the step will move out automatically once the door is opened.
Time for either the full deploy / out or the full stow / in cycle is approximately 2.5 seconds. When the step is moving the red LED on the dashboard will flash until the step is completely out.
If the step encounters an obstacle it automatically stops. It will move backwards for a few centimeters and then move forward again. If there is still an obstacle it will repeat this procedure three times, then it will stop in the position where it encountered the obstacle.

5.2 Stow operation procedure

To stow the step the door should be closed or the driver has to give a signal that the step should stow. The same rules apply as for moving out.

At closing a signal from the close switch will indicate that the Step is completely closed. This close signal will also give the vehicle the OK that it is safe to drive the vehicle away, the Red LED light at the dashboard will go off. If the step is not stowed properly the RED LED keeps blinking.

6 Manual Operation



In case the step fails, it is possible to operate the step by hand. There are two mechanisms to unlock the step for older versions of the step (Straight long hole in bottom plate) use the following procedure:

1. Put a large screw-driver through the long hole in the bottom cover in the slot in the motor base plate.
2. Move the end of the screwdriver in outside direction. This will unlock the driving mechanism. Now the step can be moved in or out by hand.
3. After moving the step in or out return the screw-driver in the slot to re-lock the step in the in or out position.

For newer versions (from mid 2013) to be recognized on a long hole in the bottom plate under 45 deg, use following procedure:

1. Put a screw-driver through the long hole in the bottom cover in the slot of the plastic part.
2. Turn ½ a turn anti clock wise. This will unlock the driving mechanism. Now the step can be moved in or out by hand.
3. After moving the step in or out return ½ a turn clock wise to lock the step.

7 Mounting / Installation

The installation can only be done by a company that is well known with bodybuilding or modifying vehicles, which has the trained technical staff to do this job.

7.1 Mechanical Installation

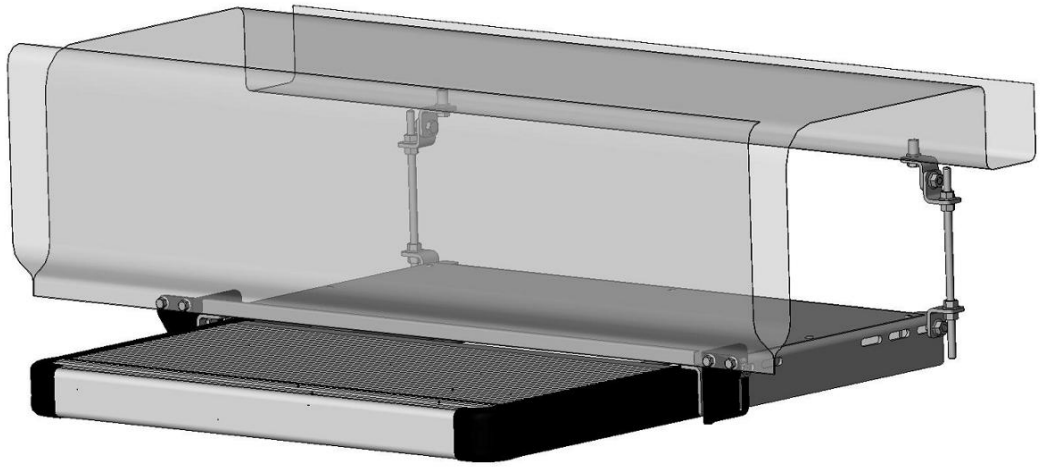
For mounting the step you do not need to make any large vehicle adaptations. The step is placed under the floor in the middle of the front, middle or rear door.
Chassis modifications are not needed.

Warning: Changing the vehicle chassis affects the strength of the vehicle. This kind of changes is only allowed after approval of the vehicle builder / constructor. You need to consult the vehicle builder for these kinds of changes. Acdeos cannot be made responsible or held accountable for any vehicle / chassis changes.

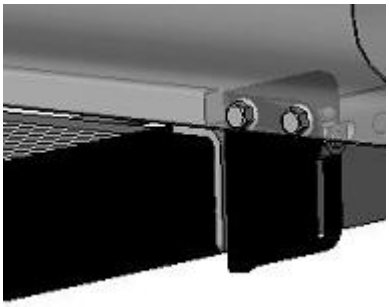
Exact measurements of the product should be taken from the official installation drawings. Ask Acdeos for the last revision and official installation drawing. Figures, drawings in this manual are only for indication.

Installation:
Create a safe working condition. Lift the vehicle to the appropriate working height.
Define the place where you want to mount the step under the vehicle. Make sure the cassette can be mounted on the required position without colliding with the chassis or other vehicle parts. **Make sure that the step is not to close to hot parts like the exhaust system. This can damage the step.**

The picture below gives the basic principles for mounting the step.



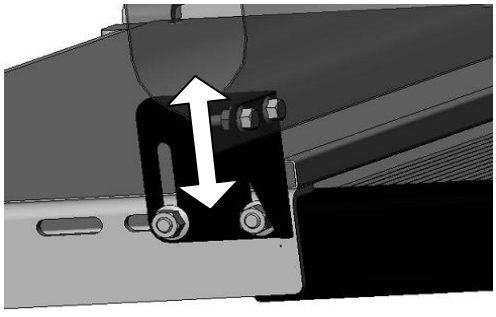
Define the place for the 4 mounting bolts on the front. The holes for this fixation should be drilled in the lower flange of the outer chassis bar of the vehicle. Drill the holes ø6.5 mm. Always protect all drilled holes with zinc spray. Make sure there is enough material in the flange under the hole. Place the step with two bolts at the flange and support it at the rear.



Take the flexible mounting brackets supplied with the step. These brackets can be mounted in several ways. The brackets should be used to fix the rear side of the step to the bottom of the vehicle. It is recommended to find a strong point at the vehicle floor. Mount the brackets in such a way that they bridge the gap between step and vehicle floor / chassis. The M8 studs should be placed as vertical as possible

This fixing requires some technical knowledge and own interpretation.
Always try to go as vertically as possible straight up from the fixing point on the rear of the step to the fixing points on the vehicles floor.
Adjust the step to be horizontal under the vehicle.
Finally fit all bolts and nuts to mount the step completely.

You can adjust the height of the step under the vehicle by adjusting the front brackets in the slot holes.



7.2 Electrical Installation

For the correct installation and function of the step, follow these instructions:

1. Find a good routing for the cable to the front of the vehicle or the area where it will be connected to the electrical system of the vehicle. The principal idea for the routing of the cable loom is as follows: cable should run under the vehicle to the front of the vehicle. Then up through the engine compartment and then inside the vehicle under the dashboard. In this area you normally find the place for electrical connections. This change from vehicle to vehicle. The cable to the door switch should run directly to the door-pillar where the door switch is mounted.
2. Look at the electrical diagrams in the rear of the manual appendix I.
3. There are in principal two different possibilities for the operation of the step.

1 - By door switch. Steps moves out automatically when the door opens

2 - By driver operated switch on the dashboard where the driver operates the step. In this case, it is still recommended to install the door switch. Without the door switch the driver could forget to close the step when the door is closed, and drive away with an open step.

4. Find a good location for the door switch.

See example for the front door of a VW Crafter / MB Sprinter.

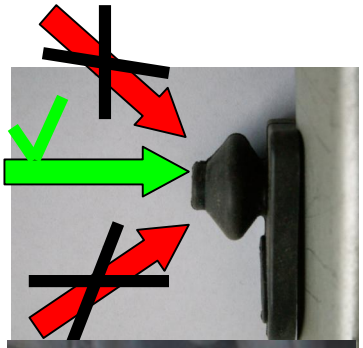
5. Connect the green wire to the handbrake switch or other signal indicating that the vehicle is stationary. You need a signal when the vehicle is stationary. The handbrake switch is not supplied with the step.

For safety reasons we recommend to use this signal. **If you decide not to use this signal Acdeos cannot take any responsibility on the safe operation of the step.**

6. If you choose for automatic door operation, place the door switch in the door pillar. If the door is closed the switch must be operated. The door switch is as standard supplied with the cable loom.

7. We recommend using the original door switch installed by the vehicle manufacturer. This switch is placed at the ideal place and tested. Just connect the ground signal of the step at the ground signal of the door switch.

If you want to use the extra safety of the handbrake or an additional switch at the dashboard you would in this case need to use an extra relays. You don't need the extra relays if the step is supplied with a single wire door switch that connects direct to ground (Electric schedule S150 001 rev4 serial numbers > 2000).



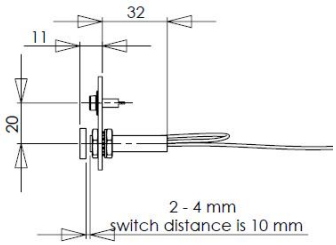
8. If you use the mechanical switch supplied with the step: Make sure the Switch is operated in a strait line by the door. **If the switch is pushed under an angel it will block and fail!**

9. Steps with **serial numbers > 3280** have a magnetic door switch. This should be mounted following these instructions:

10. Mechanical Installation Find the right place at the door to install the door switch, preferable around the area in the doorpost where you find the original door switch. Make sure there is around 35 mm open space inside the doorpost. Drill a hole of 15 mm .

11. Place the door switch and fix with a screw

12. Place the magnet at the opposite position at the door. Fix the magnet with a bit of PU glue



13. Adjust the switch if needed to create the correct distance between the front of the switch and the magnet of 2-4 mm when the door is closed The Switch makes contact when the magnet is at a distance of around 5-7 mm.

14. If you choose for driver operation, you should place a switch on the dashboard and connect it to the Green wire. Closed signal => step out. Open signal => step stowed. Also install the door switch to prevent mistakes by the driver.

15. Place the red LED in the dashboard in the direct view of the driver. Connect the wire to ground. The LED turns on red when the step is out and blinks when the step is moving in or out.

At Serial numbers higher than 4000 The Led must be connected to power instead of ground.

16. Connect the black wire to ground.

17. Connect the red wire to 12V power. **You need to add a fuse of 20 Amp** between the battery and the power cable. It is your decision to connect the step at constant power or at power behind the main switch. We recommend placing the step behind the main switch.

18. Cable colours:

black	Ground
Red	Power (Use a 20 Amp fuse)
Green	Ground signal for operating the step
Yellow	LED signal

19. Connect the cable loom to the step with the connector.

20. The step is now ready for operation.

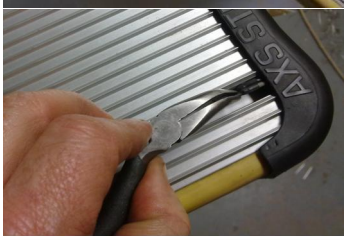
7.3 Installation of the LED (optional):

Versions up to serial number 4000.

There is a possibility to fit a front LED light strip in the Step. The Step is already prewired to fit the LED light.

The step should be completely fitted under the vehicle and electrical connected.

Bring the step in the out position (deploy). Lift the yellow rubber and pull out the strip.



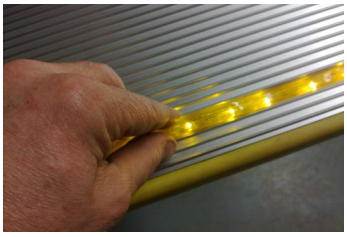
Pick up the two wires on the right hand side of the step. Connect the wires with the two pins at the led light.

The LED should light up. If not change the two wires for the right polarity. (The led is +/- sensitive.)

Slide the two connectors firm at the two pins.

This is a relative open electrical connection that needs to be protected against water. So use plenty of white Vaseline (or silicone sealant) around the connectors.

Push the led strip in the aluminum profile with the two pins under the black plastic corner.



Than push the strip in the profile over the full length.

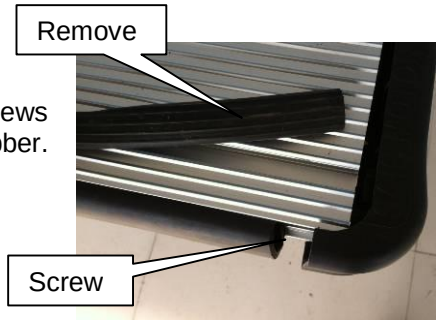
Stop About 15 cm before the other end and first place the end of LED strip under the plastic corner and than push in the last bit.

During the whole fitting the LED should light so you can see if it is properly connected.

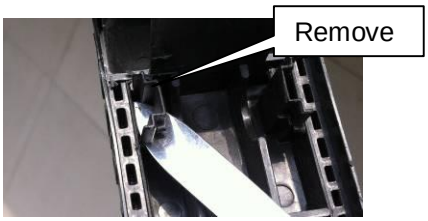
Close the step. During opening and closing the LED should blink. When the step is closed the LED is off.

Versions above serial number 4000.

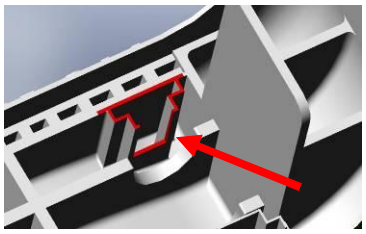
Remove the right corner from the step, by removing the two screws in the front and rear. Front screw is behind the black front rubber. Slide the rubber aside to get access at the front screw.
Remove the black rubber seal on top of the step
You don't need to remove the bottom cover



Modify the step corner by removing the plastic part that fits in the slot of the aluminum profile. This is soft plastic and can be removed by a normal knife.
First cut the standing part off

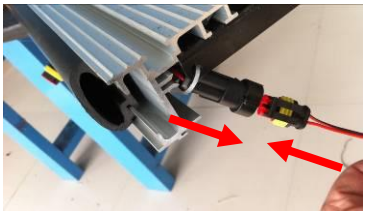


Secondly cut out a opening for the Led wires, by cutting away a square piece in the bottom of the insert.
Below picture is showing the end result.

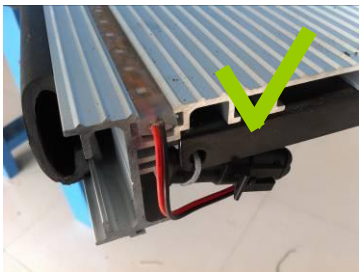


Connect the Led at the cable loom from the step.
The step is pre-wired for the LED
You don't need to remove the bottom cover

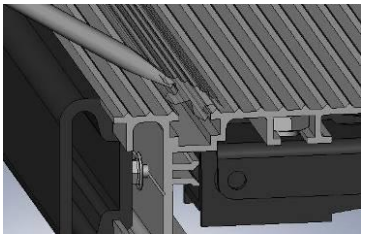
Insert the Led in the aluminum profile. Make sure the Led is over the full length pushed down at the bottom of the profile, other wise you can not fit the top rubber. Use plenty of liquid soap to make the led slide in the profile.



Align the end of the LED with the aluminum profile on both sides of the step. Fold the wires down as on the picture Check the LED lights after installing the Led strip.
Place the transparent rubber profile as supplied with the LED kit. Use plenty of liquid soap to make the mounting go easy.

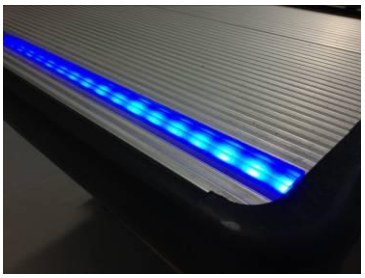


First slide in the rear lip than push in the front lip with a medium size screwdriver. Don't damage the LED or the rubber. This job requires some practise.



Mount the end corner. Make sure the cable from the Led stays free from the sharp edges.

The end result must look like this picture



7.4 Testing the Step:

You should test the step after installation. Follow these instructions:

1. **MOUNTING** – Check if the all mounting bolts are in place and tightened.
2. **MOUNTING** – Bring the step out and step on it with two persons Max 150 Kg. Check if the mounting of the step is strong enough for this weight. The construction of the step is such that a weight of 150 Kg will give a deflection of the step. This is normal !!
3. **ELECTRICAL INSTALLATION** – Move the step out and in by electrical operation.

Check if the step is moving for strange noises and unequal movements.
Check if the step stops automatic at the end of the stroke.
Check if the red LED on the dashboard turns red when the step is out.
Check if the buzzer works while the step is moving in or out. (If not disconnected)

4. **SAFETY FUNCTION** – Move the step out and try to stop it with your hand. The step should stop move back and come out again. It will try this for 3 times. Then it stops. It should go back in after closing the door.
5. **INTERLOCK VEHICLE** –Take the vehicle off the handbrake. Try to operate the step. It should not be possible to operate the step.

If this small test procedure is followed with success the step is ready to be used. If one of the tests fails the problem should be resolved before putting the step in to use.

8 Periodic maintenance / Inspection

8.1 Cleaning

The step must be cleaned in the normal cleaning schedule of the vehicle, depending on the use of the vehicle and the filthiness of the operation. Normal non-aggressive cleaning materials, as used for cleaning the other parts of the vehicle, should be used.
The use of high-pressure water cleaners is not recommended.
Do not use aggressive solvents; these could affect the paint, rubber and glue as used on the step.

8.2 Periodic maintenance / Inspection

8.2.1 Small maintenance

The product has low maintenance need. This means that it is not necessary to grease any of the moving parts on a regular basis.

8.2.2 Regular inspection

Following the vehicle inspection schedule, check following points:

1. **MOUNTING** – Check if the all mounting bolts are in place and tightened.
2. **MOUNTING** – Bring the step out and step on it with two persons Max 150 Kg. Check if the mounting of the step is strong enough for this weight. The construction of the step is such that a weight of 150 Kg will give a deflection of the step. This is normal !!
3. **ELECTRICAL INSTALLATION** – Move the step out and in by electrical operation.

Check if the step is moving for strange noises and unequal movements.
Check if the step stops automatic at the end of the stroke.
Check if the red LED on the dashboard turns red when the step is out.
Check if the buzzer works while the step is moving in or out. (If not disconnected)

4. **SAFETY FUNCTION** – Move the step out and try to stop it with your hand. The step should stop move back and come out again. It will try this for 3 times. Then it stops. It should go back in after closing the door.
5. **INTERLOCK VEHICLE** –Take the vehicle off the handbrake. Try to operate the step. It should not be possible to operate the step. (unless the handbrake interlock is not installed)

8.2.3 Yearly maintenance / large maintenance

Large maintenance should be done once every year or at least every 30.000 cycles.
If the number of cycles per year is less than 10.000 the large maintenance interval can be extended to 1.5 years.

Large maintenance:

Bring the step in the out position. Remove left or right plastic corner. Loosen the front and rear screw of the plastic corner. Front screw is behind the rubber front. Slide front rubber aside to make front screw accessible.
Remove bottom plate by removing the two screws and sliding the bottom plate out of the aluminum profile. Check all moving parts like, arm gears, push rods and wheels for excessive play. If there is excessive play on moving parts it is recommended to replace these parts.
Check the adjustment of the in and out switch.
Check wires and electrical connections for possible failures.
Clean the inside of the step and grease moving parts with normal bearing grease.
Close the step. First place bottom plate than replace plastic corner.

9 Repair

The repair of the step is simple and can be done with the normal available workshop equipment.

The most repairs can be done under the vehicle, but this manual describes a full assembly of a step removed from the vehicle.

9.1 Disassembly

Bring the step in the out position either electric or by manual operation.
Move the front rubber aside and turn the screw holding the step corner 1 turn back
Turn the screw holding the back of the step corner 1 turn back
Remove the step corner

Remove two screw from the bottom cover and remove the bottom cover.

Remove the spring holding the motor assembly

Remove ECU

Remove two M8 nuts holding the motor assembly

Remove springs from both pushrods and disconnect the push rods from the gear arms.

Slide the step out of the chassis
Remove all needed parts.

9.2 Assembly

9.2.1 Motor Assembly

Grease the 14 pin connector with white Vaseline before connecting it to the ECU.
Place two clamps over the micro switches so that they are closed.

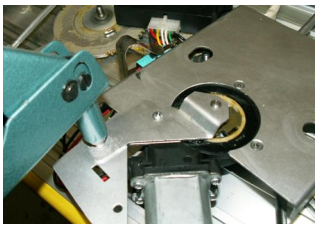
Connect the motor + wiring and ECU at a power source.

Let the motor run forward and back ward by pressing the door switch.
Spray a little silicon spray at the rubber sealing from the motor

Check the Amps from the motor. They have to be at nominal 2,4 Amp - max 2,5 Amp.

Fit the motor with the two counter sunk screws.
Put a firm bit of grease at the gear.
Place the nylon washer at the gear and place the reinforcement plate.

Let the motor run again and check the Amps. Nominal 2,5 Amp - max 2,8 Amp



Fit the two Micro switches at the motor base plate.
Motor assembly is now ready for final assembly.

9.2.2 Assembly of the Step Assembly

Place the two oval rubber grummets in the opening of the rear step profile. Use liquid soap to make the job go easy.
Slide the two rollers in the rear profile. Spray a little silicon oil at the rollers
Slide the two yellow rubber profiles in the front step profile. Use lots of liquid soap to make the profile slide easy.

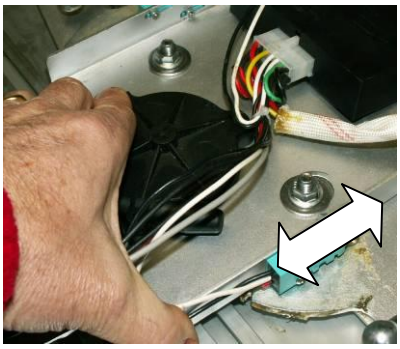
Take the sliding assembly. Spray a little Silicon oil at al the turning points for the wheels. Place the wheels at the sliding assembly. Check if the wheels run free and easy.
Take the front and rear step profile and connect them together.
Slide all required M8 bolts in the slots in the profiles.
Place the sliding assemblies through the hole in the rear step profile and over the 6x M8 bolts. Place the nuts at the bolts but do not tight up.
Take the two arm gears; take a paint brush with a firm bit of grease. Grease the gears from the gear arms.
Spray silicon oil at the nylon rings and place them at the gear arms. Slide the distance bushing in the nylon rings.

Place the gear arms at the step assembly over the two M8 bolts. Align the gear arms with the two marks at the gear.

Place the motor assembly over the gear arms.
Make sure the lip slides in the slot from the Aluminium profile.

Place the tow large washer's and tight up the first nut than check if the arm gear can turn freely without to much friction.

If the arm is too tight, remove the nut and washer and place a 0, 2 mm shim at the distance bushing. Tight up again and check again. Repeat this until the arm has the proper freedom of movement.

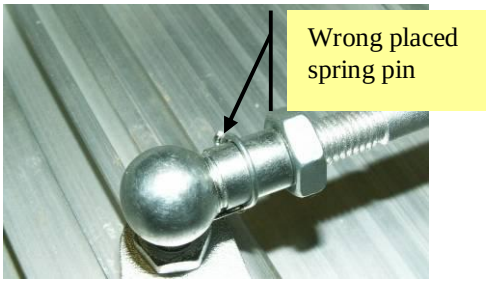


Than tight up the second nut and check if the motor base plate can move free in the slot. If the motor base plate can't be moved free by hand in the slot than you need to ad a shim or more if needed.

After that both turning points have been adjusted connect to power again and let the motor run in both directions. Motor current must be below 3 Amp.

Fix the ECU with the two screws

Take the 2 push rods
Put some grease at the ball at the arm gear.



Place the push rots trough the holes of the rear step profile and connect to the ball at the arm gear.
Secure the ball joint with the spring pin. Make sure the pin is connected properly.

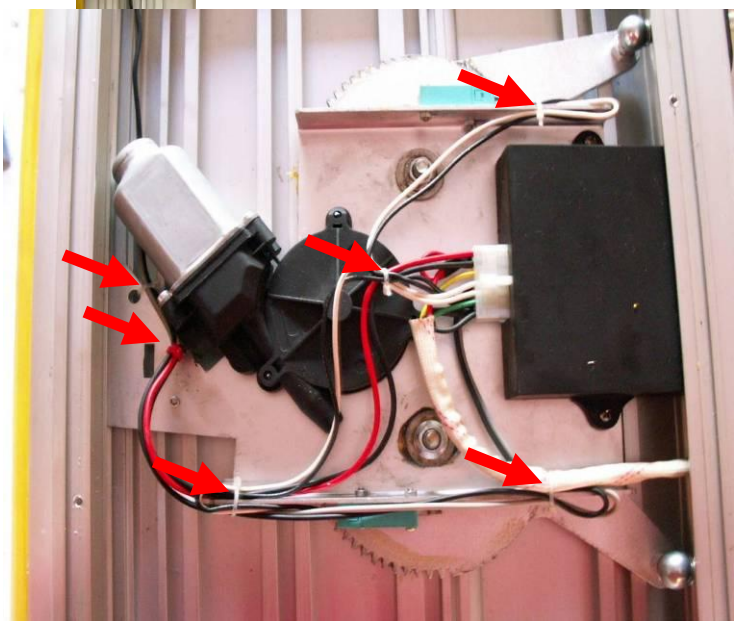
Turn the 4 screws for the two corner pieces in the holes and fix the complete than turn them back for 3 turns.

Place the cable for the LED light under the rubber profile

Strap electric cable loom

Connect the 8 straps at the points for fixation.

Now the step assembly is ready for final assembly



9.2.3 Final Assembly

Take the welding assembly
Slide a sliding assembly with 4 wheels through the tube and check if it runs free.

Take a long small paint brush and grease only the both sides of the tube inside at the front and the rear.

Slide the rubber grummets around the two 30 x50 tubes

Place the welding assembly upside down at a table and fixate it.
Take the step assembly and slide it in the chassis.
Make sure the push rods are completely retracted.
Slide the assembly a few time's in and out, feel if it runs free
Than slide in.

Check if the rear and front profile are aligned at the side.

Check if the tubes from the chassis in the holes in the rear profile are in the centre. The Aluminium must be free at least 1 mm from the steel tube

Check if the sliding chassis is in the centre of the tube at the front side.

With the assembly in closed position fix the 2x 6 nuts of the sliding assembly
Move the assembly in and out by hand and feel if it runs free.

Loosen the two nuts from the motor assembly. **Adjust the motor assembly to the centre of the step**. Measure from the left and right sliding bar from the sliding assembly.

Pull out the assembly in the out position
Connect the ball joints from the push rods at the chassis.
Connect the cable chain at the chassis
Move the step in and out and feel if it still runs free.

If it moves difficult check if the push rod are equal in length. If the step is not running parallel with the chassis it could be that the gear arms are one tooth offline. Check left and right ball joint position compared to a vertical line in the Aluminium step profile when the step is 50% out.

Switch adjustment:
Slide the step in closed position. Move the right micro switch in such a position that the switch just makes contact. You can hear the switch when the contact is closed. Fix the switch with the two screws. Use proper tools so that you can fix the two small screws with the appropriate torque.
Slide the step out until max out position. Than slide it 5 mm back in. Now adjust the out switch in the same way as the stow / in switch has been adjusted.

Take the spring assembly and pray silicon oil at the spring assembly.
Lock the motor assembly with the spring.

Turn the step from upside down position to the normal position.

Connect the cable loom to the power source
Let the step move in and out by the motor.
Checks if the Micro switches for in and out have been adjusted properly.
In closed position the step should stay on the metal end lock of the sliding assembly and the tube's of the chassis.

Let the step run in and out and check the motor current.
Ideally the step should move in and out with a motor current below 4 amps.
Maximum allowed motor current in this situation is 4,5- 5 Amp.
If motor current is above max Amp check if any parts are colliding during the movement of the step. Find the source of resistance and repair it.

NEVER ADJUST THE CURRENT CONTROL OF THE ECU TO MAKE THE STEP WORK!

Turn back to upside down position.
Place the left corner piece fix with the screws. Make sure the cable for the LED is free.

Now you are at the point of closing the step,

Check once more if al nuts and bolts have been tighten up to the right torque.
Also check the screws from the micro switches.

Check if al cables have been tight up properly and are free from moving parts. Check if the two cables for the LED are not tight between the motor housing and the aluminium step profile. This is a course of high motor Amps.

Slide the step bottom cover in place and fix with the two screws.
You can use a magnet to lift the end of the bottom cover, to make it slide in the corner piece easier, or pre bend the cover plate by hand

Place the left corner piece - Fix the rear screw.
Slide the front rubber away as much as possible and fix the front screw.
Slide the front rubber back until it is under the front end of the corner piece.

Check if the corner pieces are really fixed by pulling the side ways

Step is ready for operation again.

10 Failure search

Failure	Problem	Solution
Step makes a rattling noise before is close completely. Step sometime doesn't move out	Close switch not properly adjusted.	Adjust the close switch in the direction of the ECU. Close switch is the switch near the spring
Step does not come out when door is open	Hand brake not applied	Put the vehicle at the handbrake. This can only be the case when the step is installed with a handbrake interlock.
Step does not come out when the vehicle engine is running but does move out when the engine is stopped	ECU problem.	Replace ECU
At the end of the out movement; step starts moving in and out.	Open switch not properly adjusted.	Adjust out switch in direction of front side of the step.
Step does not move out.	Fuse burned.	Replace fuse.
Step does not move out.	Step damaged by stroke from a curb stone or speed bump	Check for deformation in the mechanical system and repair / replace these.
Step does not move in when door is closed	Door switch broken:	Replace door switch.
Step does not move in when door is closed	Door switch not properly adjusted.	Check if door is pushing the switch up to the contact point.
Step stops during movement and goes back and forward than stops.	Step is encountering an obstacle.	Remove obstacle. This can be dirt or ice inside the step.
Step does not move	Bad electrical contact.	Check cable loom and connectors

11 Environment

The use of energy from the step is reduced to an absolute minimum.

The AXS - Step is made of durable materials which all can be recycled. All different materials can easily be separated from each other for separate recycling.

12 Certification

Certification

Product description

Product: AXS STEP
Electrical Sliding step

Type: AXS 600 A
AXS 900 A

Production under responsibility of

Company	Acdeos BV
Address	Touwbaan 1A
City	2352 CZ Leiderdorp
Country	Netherlands
Website	WWW.ACDEOS.COM
Legal represented by	Mr. A de Moes

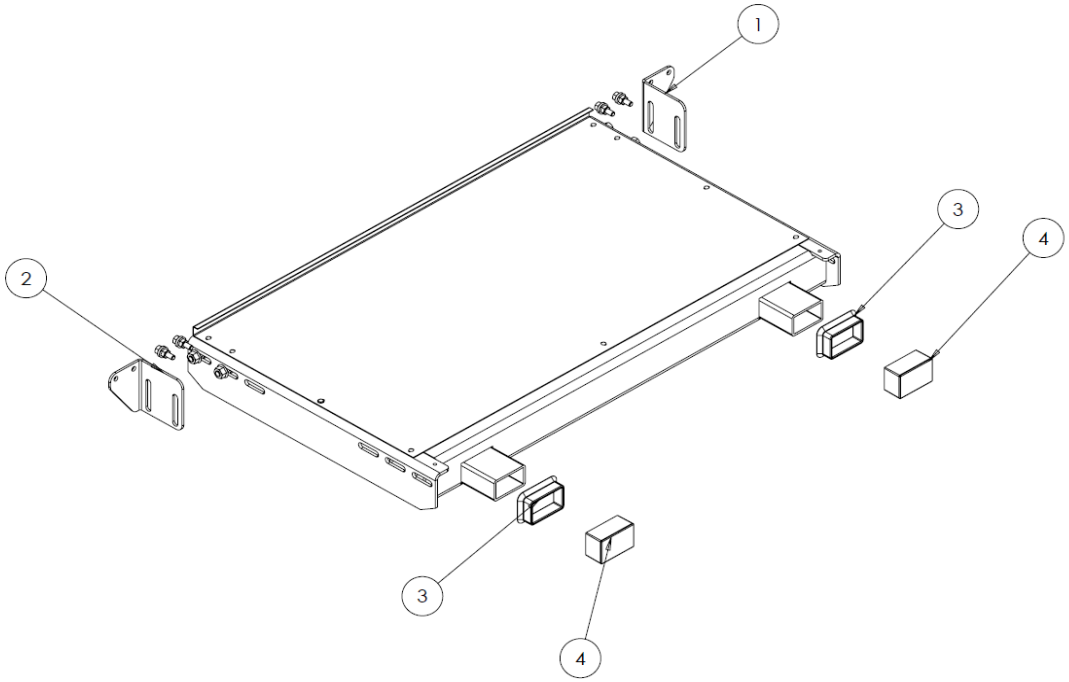
Conformity

Product is designed, tested and produced confirm:
The loading recommendations in the Machine directive 98/37/EG
Step is tested for a maximum weight of 150 Kg

On behalf of producer:
Name / Function
A de Moes / Engineering
Date
15 September 2009
Place
Leiderdorp, Netherlands

13 Spare parts

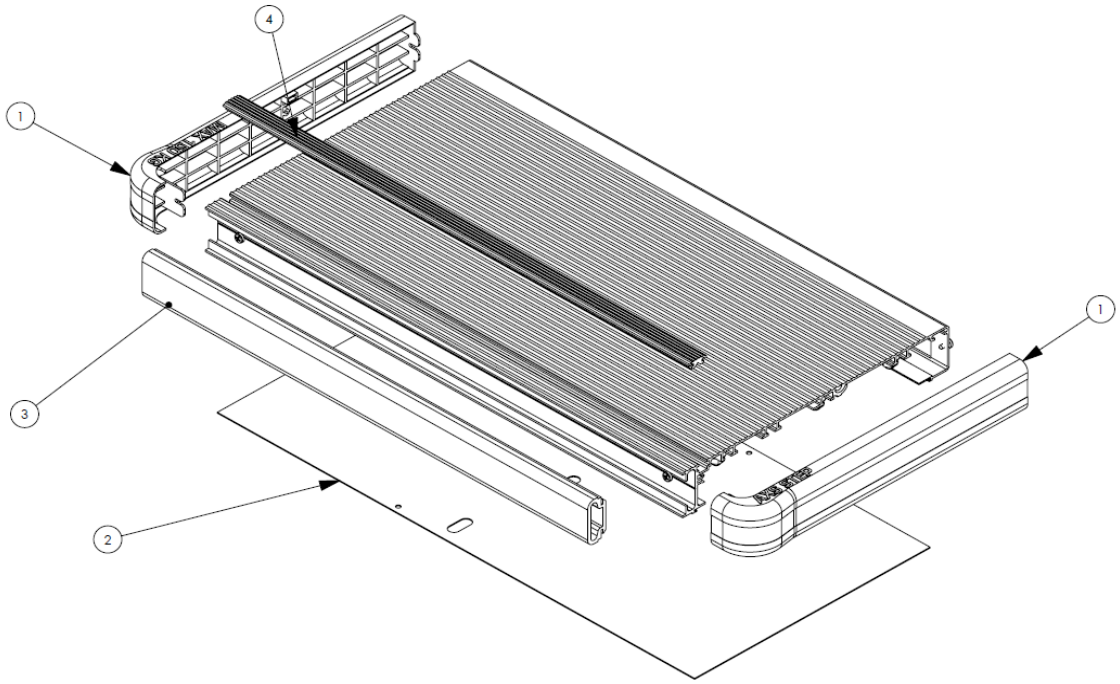
Chassis



item	Part	Part number
1	Mounting bracket Left	S150 013
2	Mounting bracket Right	S150 012
3	Rubber seal	S150 048
4	Rubber cap	S150 035

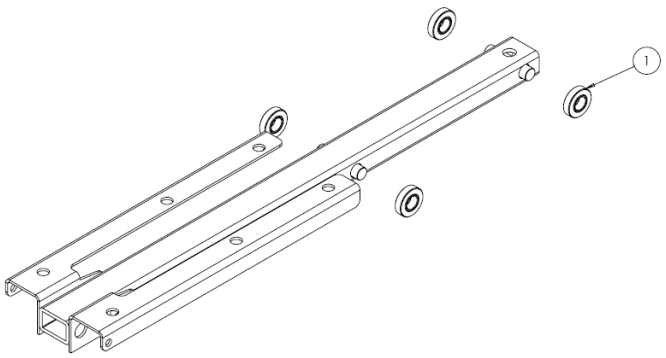
item	Part	Part number
1	Mounting parts	S150 01 001

Step assembly



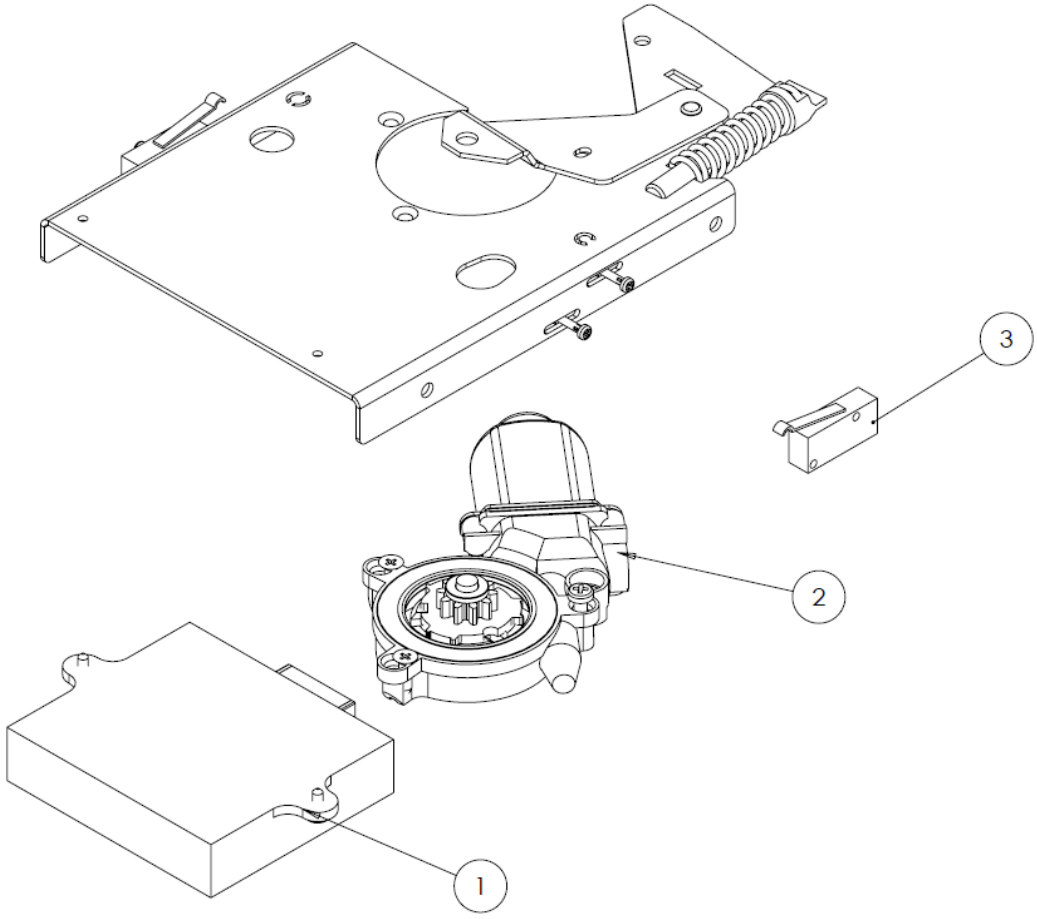
item	Part	Part number
1	Step corner	S150 004
2	Bottom cover 600 mm	S153 02 06
2	Bottom cover 900 mm	S154 02 06
3	Front rubber 600 mm	S153 02 05
3	Front rubber 900 mm	S154 02 05
4	Rubber front seal 600 mm	S153 02 04
4	Rubber front seal 900 mm	S154 02 04

Sliding assembly

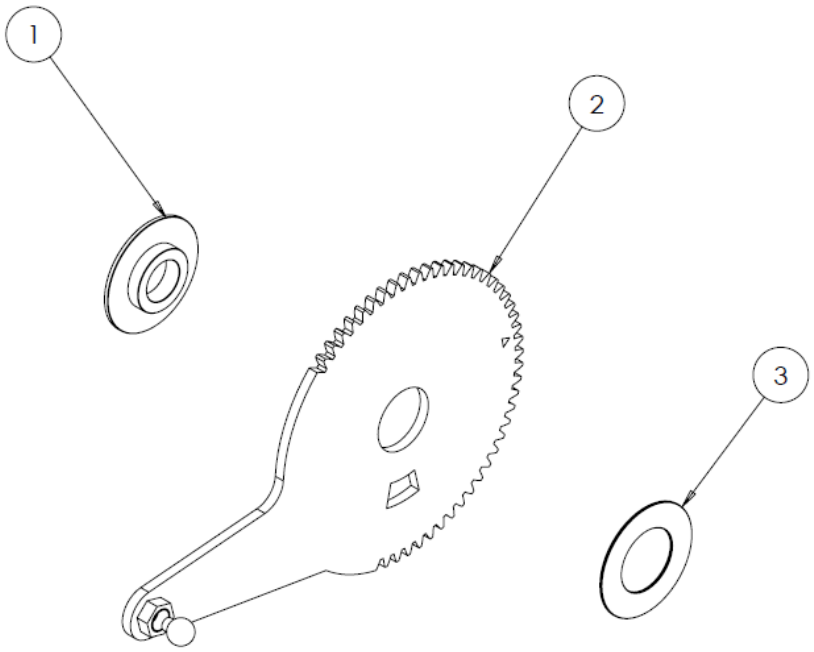


item	Part	Part number
1	Wheel	S150 027

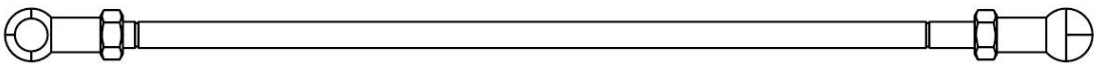
Motor assembly



item	Part	Part number
1	ECU	S150 009
2	Motor	S150 101
3	Micro switch	S150 020

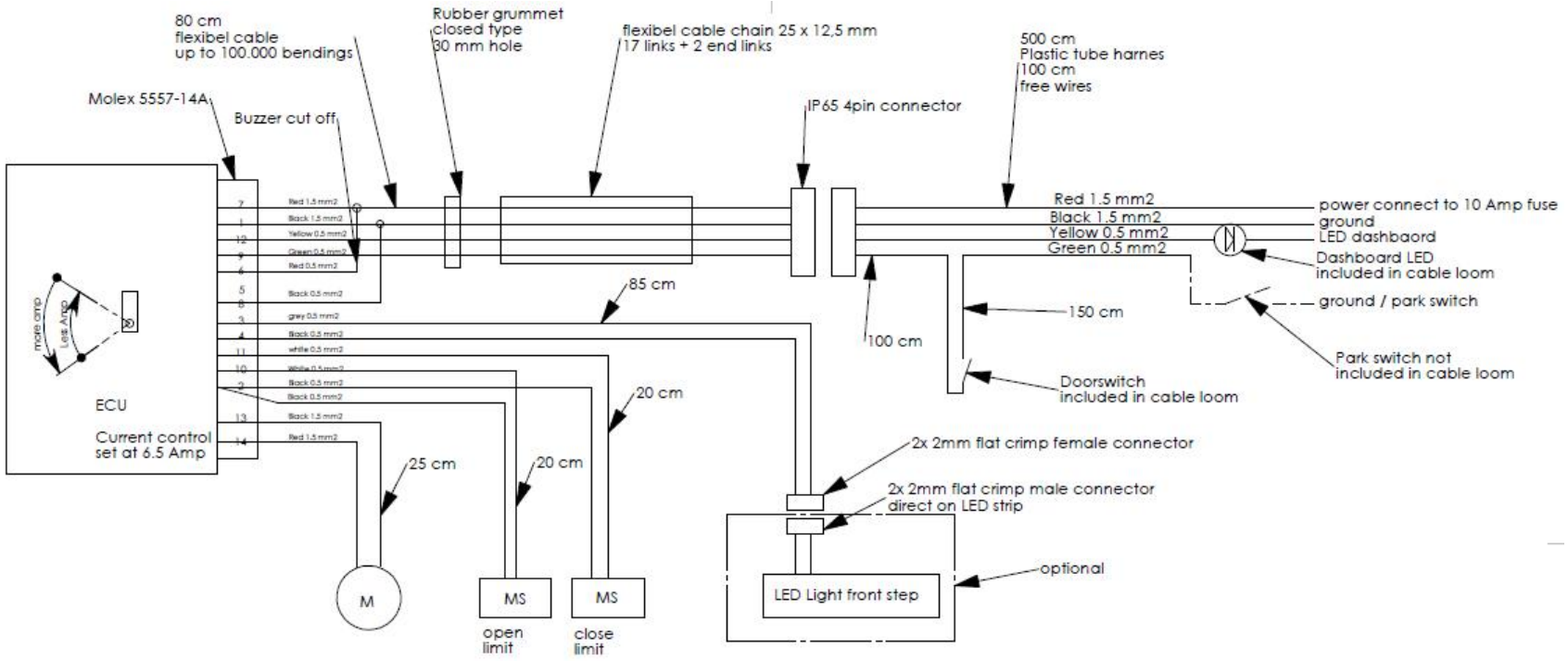


item	Part	Part number
1	Washer	S150 039
2	Gear arm	S150 032
3	Ring	S150 042

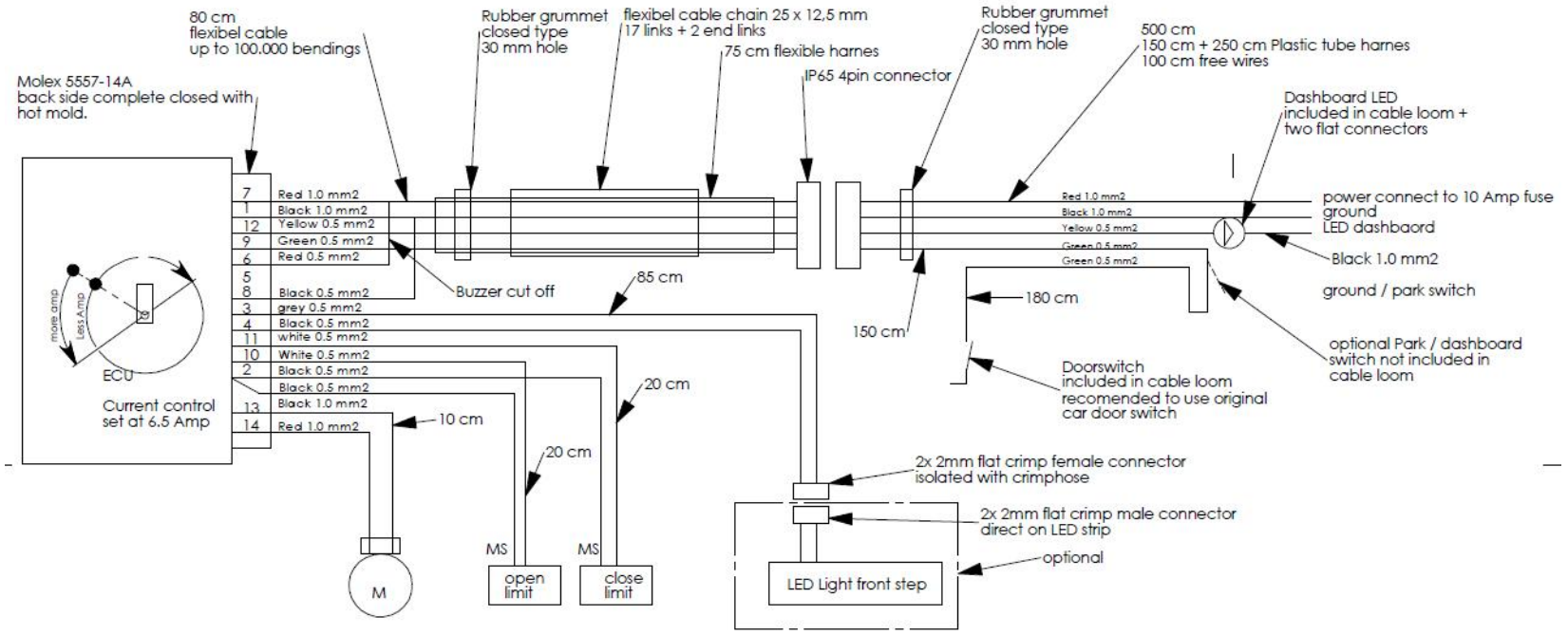


item	Part	Part number
1	Push rod assembly	S150 01 003

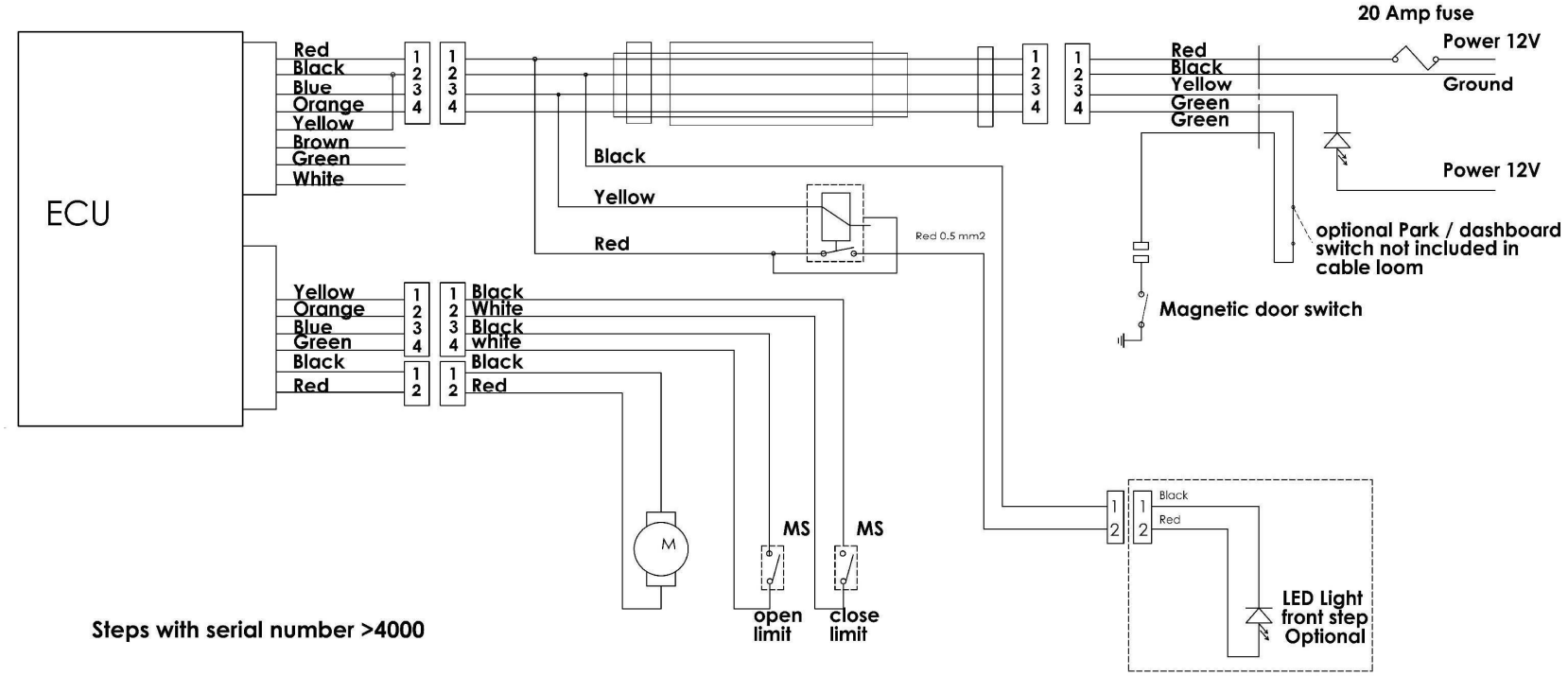
Appendix 1;
Electric schedule serial numbers AI400 – 2000



Electric schedule rev 4 serial numbers AL 2000 => 4000

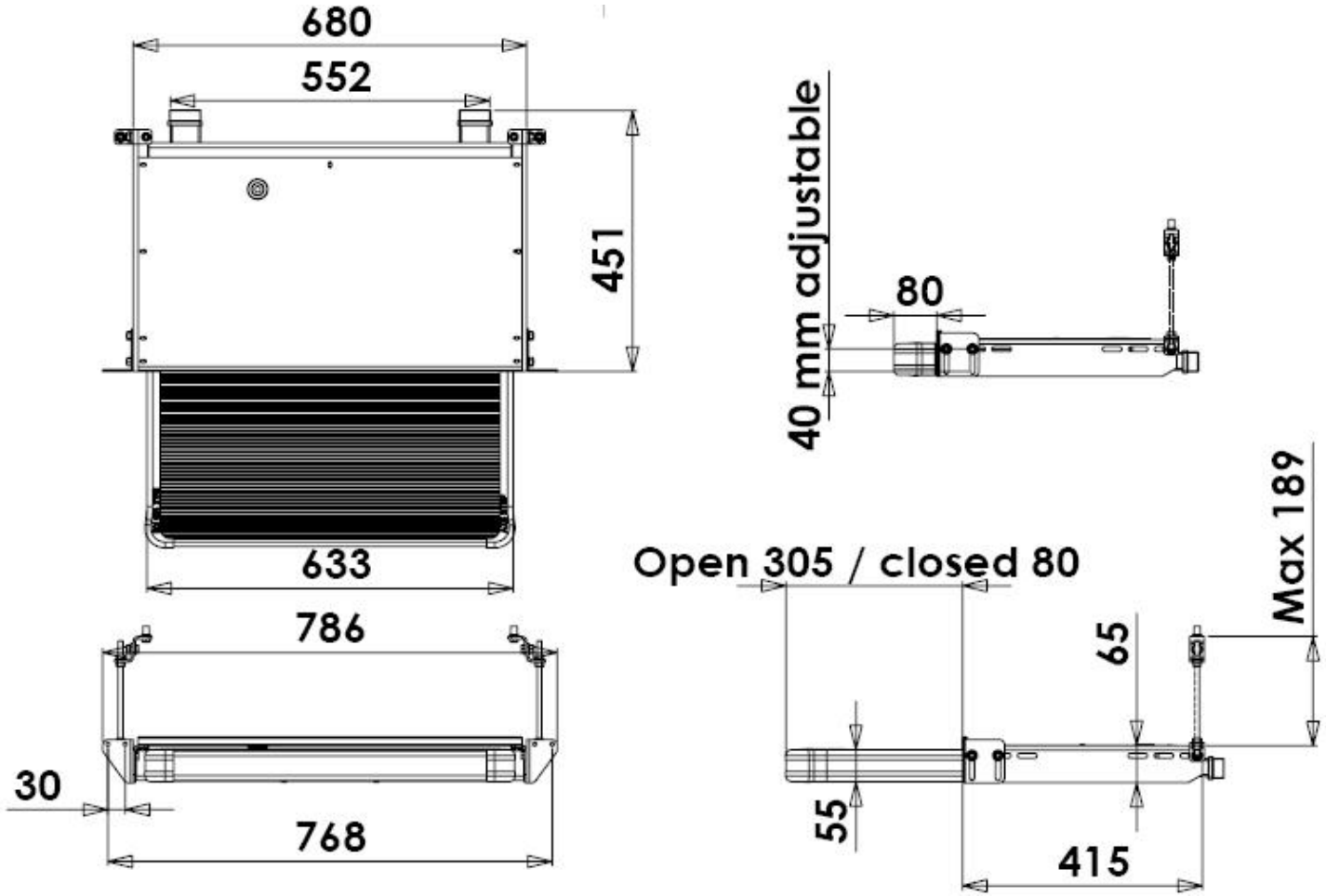


Electric schedule rev 5 serial numbers 4000 => …

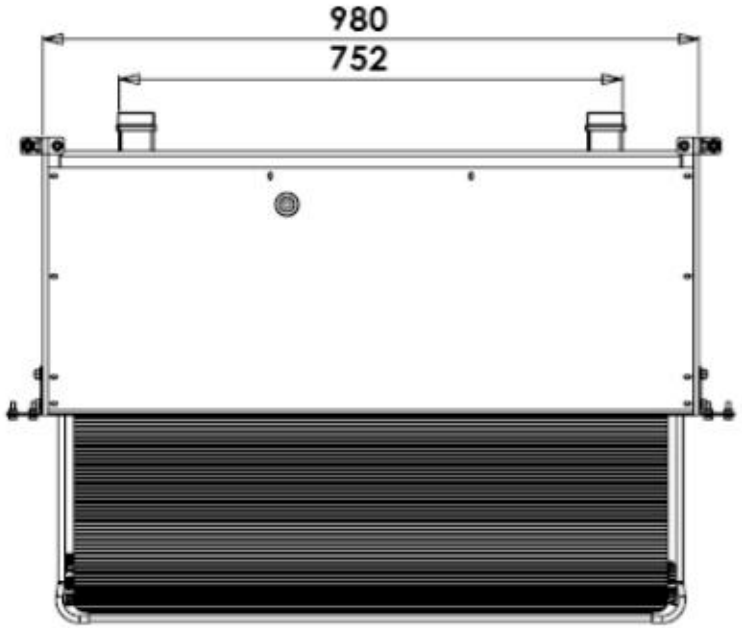


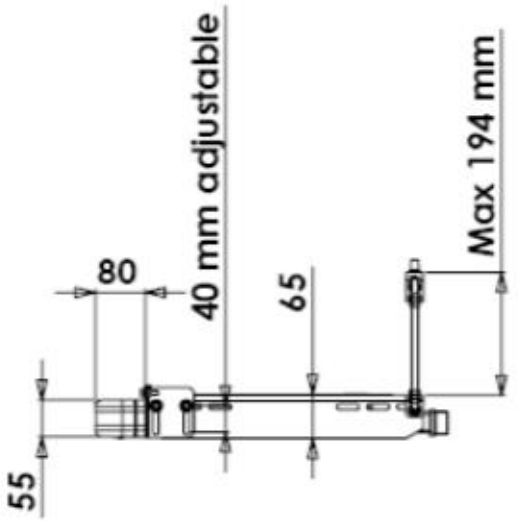
Appendix 2; Installation drawings:

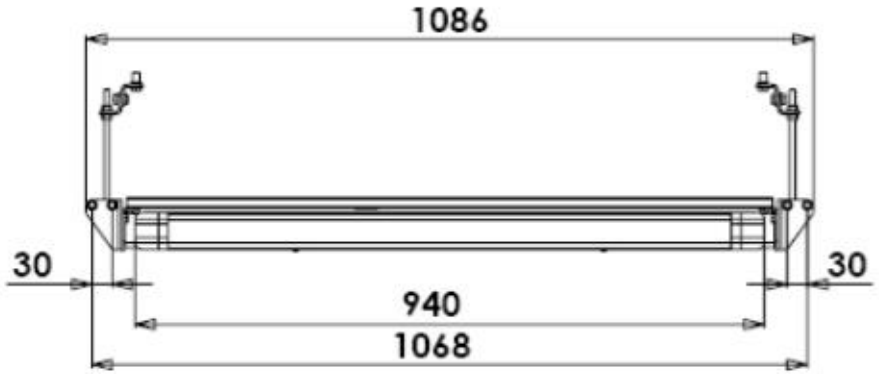
AXS 600A

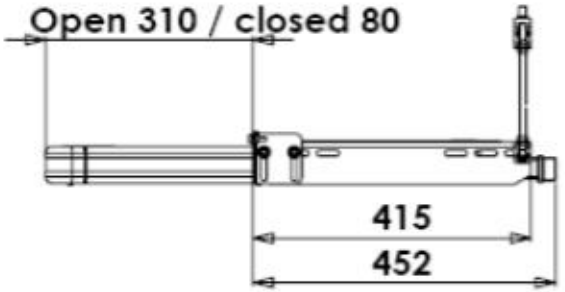


AXS 900 A


980
752


80
40 mm adjustable
65
Max 194 mm
55


1086
30
30
940
1068


Open 310 / closed 80
415
452